

CLAIMS

What is claimed is:

1. A multi-site redundant telephony call processing system comprising:
  - (a) an active telephony call processing host located in a first geographic region for controlling calls between telephony subscribers;
  - (b) a standby telephony call processing host located in a second geographic region remote from the first geographic region for taking over call control functions handled by the active telephony call processing host in response to failure of the active telephony call processing host, the active and standby call processing hosts forming a single logical telephony call processing node; and
  - (c) at least one local area network (LAN) being geographically distributed between the first and second geographic regions for carrying signaling messages to and from the active and standby telephony call processing hosts.
2. The system of claim 1 wherein the telephony call processing hosts comprise active and standby packet telephony call processing hosts.
3. The system of claim 2 wherein the packet telephony call processing hosts comprise active and standby media gateway controllers.
4. The system of claim 2 wherein the packet telephony call processing hosts comprise active and standby SIP proxy servers.
5. The system of claim 2 wherein the packet telephony call processing hosts comprise active and standby H.323 gatekeepers.

6. The system of claim 1 wherein the telephony call processing hosts comprise active and standby telephony feature servers.
7. The system of claim 1 wherein the telephony call processing hosts comprise active and standby telephony application servers.
- 5 8. The system of claim 1 wherein the at least one LAN includes a first LAN having a first side located in the first geographic region and a second side located in the second geographic region.
9. The system of claim 8 wherein the at least one LAN includes a second LAN having a first side located in the first geographic region and a 10 second side located in the second geographic region.
10. The method of claim 9 wherein the first and second sides of the first LAN form a first geographically distributed IP subnet and the first and second sides of the second LAN form a second geographically distributed IP subnet.
- 15 11. The system of claim 8 comprising a bridge for bridging the first and second sides of the first LAN.
12. The system of claim 11 wherein the bridge is implemented using routers and WAN switches separate from the first and second LANs and from an IP network interconnecting the first and second geographic regions.
- 20 13. The system of claim 11 wherein the bridge is implemented using routers and WAN switches separate from the first and second LANs and included in an IP network interconnecting the first and second geographic regions.

14. The system of claim 11 wherein the bridge is implemented using routers and WAN switches that are part of the first and second LANs and separate from an IP network interconnecting the first and second geographic regions.
- 5 15. A redundant telephony call processing system comprising:
  - (a) N dual host telephony call processing nodes, N being an integer, each dual host telephony call processing node including first and second telephony call processing half nodes, each half node including a single host, the half-nodes being located in different geographic locations; and
  - (b) a third telephony call processing half-node operatively associated with the plurality of first and second telephony call processing hosts and capable of taking over the operations of any of the first and second telephony call processing half-nodes in response to failure of any of the first and second telephony call processing half nodes.
16. The system of claim 15 wherein the third telephony call processing half-node is geographically separated from all of the first and second telephony call processing half nodes.
- 20 17. The system of claim 15 wherein the third telephony call processing half node is co-located with one of the first and second telephony call processing half nodes.
18. The system of claim 15 wherein the telephony call processing half nodes comprise media gateway controllers.

19. The system of claim 15 wherein the telephony call processing half nodes comprise SIP proxy servers.
20. The system of claim 15 wherein the telephony call processing half nodes comprise H.323 gatekeepers.
- 5 21. The system of claim 15 wherein the telephony call processing half nodes comprise telephony feature servers.
22. A method for routing packets between geographically separate redundant telephony call processing hosts, the method comprising:
  - (a) receiving a packet addressed to one of a plurality of redundant telephony call processing hosts;
  - (b) extracting a destination network address from the packet;
  - (c) applying a LAN/side subnet mask to the destination network address;
  - (d) comparing the masked address from step (c) to a plurality of different routing table entries to identify a geographically distributed LAN and a side of the geographically distributed LAN to which the packet should be routed; and
  - (e) routing the packet to the LAN/side combination identified in step (d).
- 15 23. A method for allocating network addresses and subnet masks to a pair of geographically separate telephony call processing hosts, the method comprising:
  - (a) selecting first and second base network addresses for first and second geographically separate sides of a first LAN for

communicating messages between a pair redundant telephony call processing hosts;

- (b) selecting second and third base network addresses for first and second geographically separate sides of a second LAN second LAN for communicating messages between a pair of redundant telephony call processing hosts;
- (c) converting the base addresses into binary format; and
- (d) selecting a LAN/side subnet mask to be applied to packets routed between the first and second LANs based on the least significant 1 bit in the base addresses.